Center for
Health Statistics

California Department of Health Services

September 2003

DATA SUMMARY No. DS03-09002

This Data Summary is one of a series of leading cause of death reports.

Highlights

- **In 2001 73.2 percent of all diabetes deaths in California occurred among people age 65 and older.**
- **The diabetes crude death rate for California was 18.3 deaths per 100,000 population in 2001.**
- **During 2001 the California diabetes age-adjusted death rate of 20.9 was lower than the United States rate of 25.2.**
- **In 2001 Blacks had a diabetes age-adjusted death rate significantly higher than Hispanics, Asian/Other, and Whites.**

Diabetes Deaths in California, 2001

By Daniel H. Cox

Introduction

In 2001 diabetes was the sixth leading cause of death in the United States and was the underlying cause of 71,252 deaths that year.[1] Currently, more than 17 million people in the United States have diabetes; 5.9 million of those people remain undiagnosed.[2]

Diabetes disproportionately affects minority populations and the elderly and its incidence is likely to increase as minority populations grow and the U.S. population becomes older. The human suffering caused by diabetes and its complications is tragic, while the economic cost to society is great. Diabetes can have a harmful effect on most of the organ systems in the human body; it is a frequent cause of end-stage renal disease, non-traumatic lower-extremity amputation, and a leading cause of blindness among working age adults. Persons with diabetes are at increased risk for ischemic heart disease, neuropathy, and stroke.

The definition of diabetes used in this report is based on the International Classification of Diseases, Tenth Revision (ICD-10) codes E10-E14 currently presented in the National Center for Health Statistics (NCHS) Monthly Vital Statistics Report.[3] In this Data Summary, as in the previously mentioned NCHS report, diabetes related deaths are counted only when diabetes is the underlying cause of death. The United States Public Health Service has established a number of health objectives pertaining to diabetes, which are published in *Tracking Healthy People 2010*.[4] Since these objectives are based on both underlying and contributing causes of diabetes deaths rather than underlying cause only, California's progress in meeting the year 2010 national health objective for diabetes will not be addressed in this report.

---

[1] National Center for Health Statistics, Deaths: Preliminary Data for 2001, National Vital Statistics Reports, DHHS Pub. No. (PHS) 2003-1120, PRS 03-0165, March 2003; Vol. 51, No. 5.

[2] Centers for Disease Control and Prevention. Diabetes: Disabling, Deadly, and on the Rise. Atlanta, GA, U.S. Department of Health and Human Services, Revised March 2003.

[3] National Center for Health Statistics, Deaths: Preliminary Data for 1999, National Vital Statistics Reports, DHHS Pub. No. (PHS) 2001-1120, PRS 01-0358, June 2001; Vol. 49, No. 3.

[4] U.S. Department of Health and Human Services. Tracking Healthy People 2010. Washington DC: U.S. Government Printing Office, November 2000.

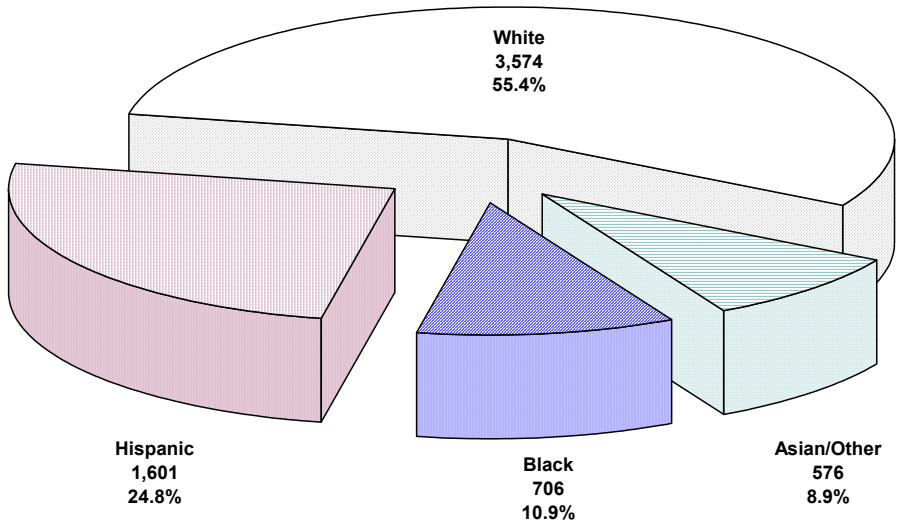
A brief overview of data limitations and qualifications is provided at the end of this report.

Diabetes Deaths

Table 1 (page 9) displays diabetes death data for 2001 by race/ethnicity, age, and sex. Diabetes deaths occur predominantly among the older population, and this held true in 2001 with 73.2 percent of all diabetes deaths involving people in the age groups 65 years and older. These age groups, within each respective race/ethnic group, accounted for 76.5 percent of all diabetes deaths among Whites, 72.6 percent of deaths among Asian/Other, 69.7 percent of deaths among Hispanics, and 64.7 percent of deaths among Blacks. During 2001 the number of deaths attributed to diabetes was slightly higher among females (3,369) than among males (3,088).

As shown in **Figure 1**, the number of diabetes deaths among Whites (3,574) was higher than Hispanics (1,601), Blacks (706), and Asian/Other (576).

FIGURE 1
DIABETES DEATHS
BY RACE/ETHNICITY *
CALIFORNIA 2001



Source: State of California, Department of Health Services, Death Records.
* Calculated using death data for California residents only.

Diabetes Crude Death Rates

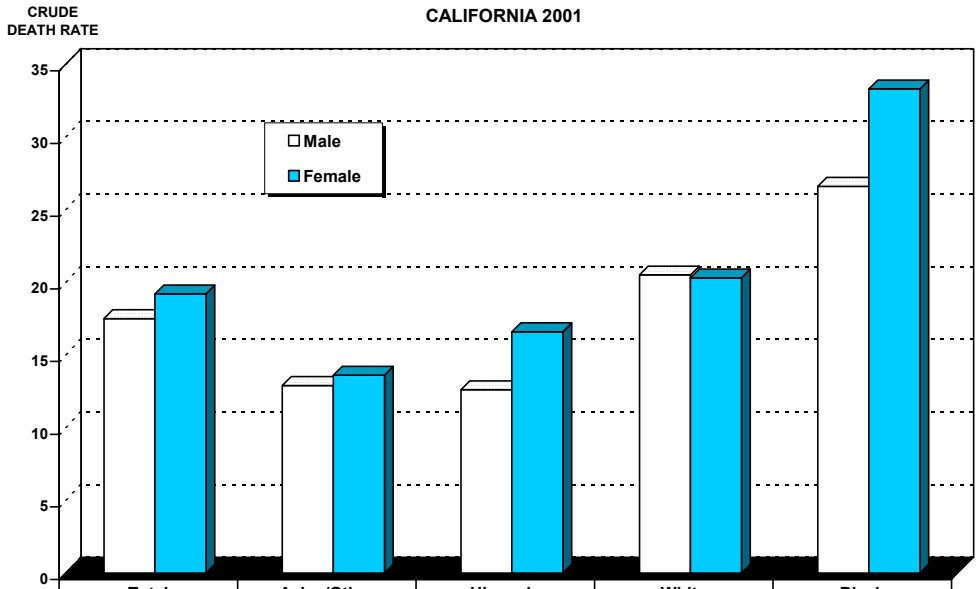
The diabetes crude death rate for California increased slightly from 17.9 deaths per 100,000 population in 2000 to 18.3 in 2001.[5] As shown in **Table 1** (page 9), Blacks had the highest crude death rate in 2001, a rate of 30.0. Whites were next with a crude rate of 20.4, followed by Hispanics with a rate of 14.5 and Asian/Other with a rate of 13.2. Three of these four rates increased from 2000 when Whites had a diabetes crude death rate of 20.1, Hispanics had a rate of 13.5, and Asian/Other had a rate of 12.1. The rate for Blacks decreased slightly from 2000, when the rate was 31.7. None of these differences were statistically significant.

[5] Cox D. Diabetes Deaths in California, 1999-2000. Data Summary. Center for Health Statistics, California Department of Health Services, June 2002.

See the Methodological Approach Section later in this report for an explanation of crude, age-specific, and age-adjusted death rates.

Figure 2 shows Black, Hispanic, and Asian/Other females had higher diabetes crude death rates than males in the corresponding race/ethnic groups. Black females had a rate of 33.3 deaths per 100,000 population, and Black males had a rate of 26.6. Hispanic females had a rate of 16.6 and Hispanic males had a rate of 12.6. These differences were statistically significant. Asian/Other females had a rate of 13.6 and Asian/Other males had a rate of 12.9. This difference was not statistically significant. Contrary to the findings for the other three race/ethnic groups, White males had a diabetes crude death rate of 20.5, which was slightly higher than the rate of 20.3 for White females. This difference was not statistically significant.

FIGURE 2
DIABETES CRUDE DEATH RATES
BY RACE/ETHNICITY AND SEX *
CALIFORNIA 2001



	Total	Asian/Other	Hispanic	White	Black
Male	17.5	12.9	12.6	20.5	26.6
Female	19.2	13.6	16.6	20.3	33.3

Source: State of California, Department of Health Services, Death Records.
* Calculated using death data for California residents only.

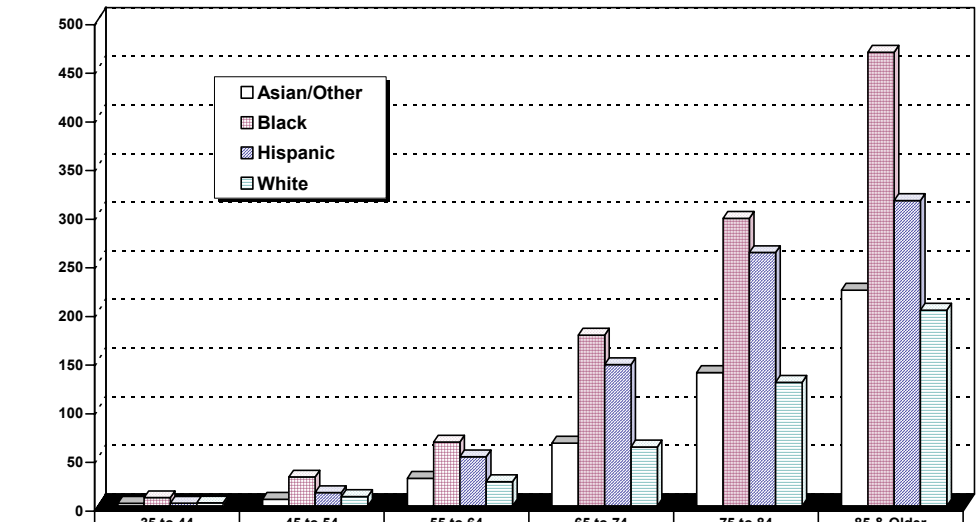
Diabetes Age-Specific Death Rates

In **Table 1** (page 9), reliable age-specific rates show that among the sexes in 2001, White males consistently had higher diabetes death rates than White females. Among Blacks, males had higher rates than females in every age group except the 75 to 84 age group. Among Asian/Other, males had higher rates than females in every age group except the 75 to 84, and 85 and Older groups. Among Hispanics, males had higher rates in the 45 to 54 and 55 to 64 age groups, females had higher rates in the 65 to 74, 75 to 84, and 85 and Older age groups.

Figure 3 (page 4) shows that in 2001, among the age groups with reliable rates, Blacks had higher diabetes age-specific death rates than the other three race/ethnic groups. These differences were statistically significant except for the 75 to 84 age group where there was no significant difference between the Black death rate and the Hispanic rate.

See the Vital Statistics Query System (VSQ) at our Web site www.dhs.ca.gov/hisp/Applications/vsq/vsq.cfm to create your own vital statistics tables.

FIGURE 3
DIABETES AGE-SPECIFIC DEATH RATES
BY RACE/ETHNICITY AND AGE *
CALIFORNIA 2001

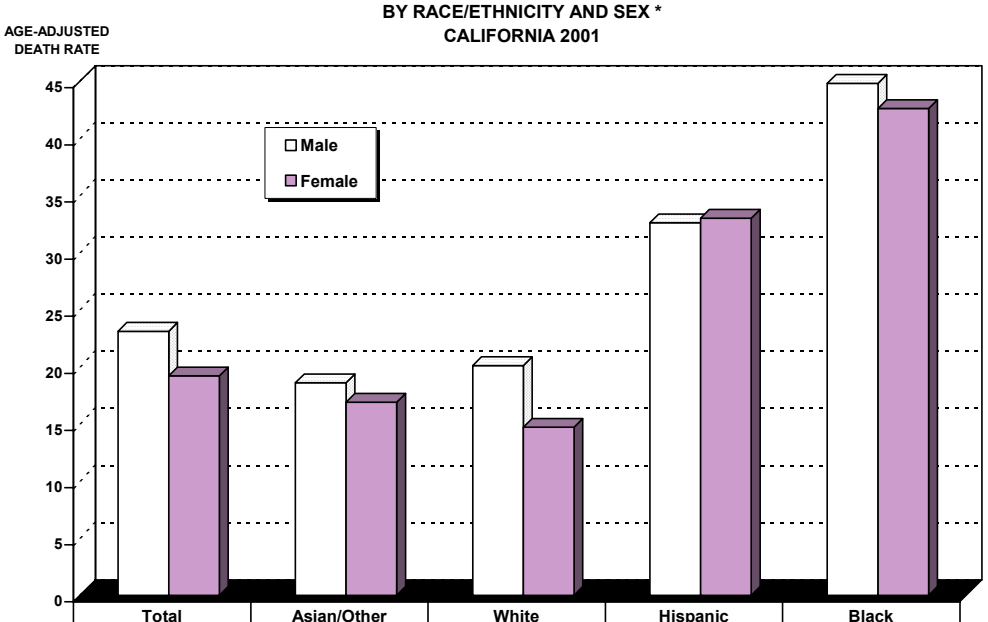


	35 to 44	45 to 54	55 to 64	65 to 74	75 to 84	85 & Older
Asian/Other	2.8	6.9	28.4	64.5	137.1	222.0
Black	8.5	29.7	65.7	175.5	295.7	466.5
Hispanic	2.9	13.7	50.5	145.3	260.5	314.1
White	3.1	9.7	25.1	60.6	127.1	201.3

Source: State of California, Department of Health Services, Death Records.
* Calculated using death data for California residents only.

Not shown in **Figure 3**, but displayed in **Table 1** (page 9), are the diabetes age-specific death rates for the 25 to 34 age group where Whites had the only reliable rate.

FIGURE 4
DIABETES AGE-ADJUSTED DEATH RATES
BY RACE/ETHNICITY AND SEX *
CALIFORNIA 2001



	Total	Asian/Other	White	Hispanic	Black
Male	23.1	18.6	20.1	32.6	44.8
Female	19.2	16.9	14.7	33.0	42.6

Source: State of California, Department of Health Services, Death Records.
* Calculated using death data for California residents only.

You can read more about crude and age-adjusted rates on the National Center for Health Statistics Web site at www.cdc.gov/nchs/

Diabetes Age-Adjusted Death Rates

In 2001 the California diabetes age-adjusted death rate of 20.9 deaths per 100,000 population was lower than the United States rate of 25.2.[1] The California rate increased slightly from 2000 when the rate was 20.6, though this difference was not statistically significant.[5]

Displayed in **Table 1** (page 9), a comparison among the race/ethnic groups shows that in 2001 Blacks had a diabetes age-adjusted death rate (43.7) significantly higher than Hispanics (33.0), Asian/Other (17.8), and Whites (17.0).

As shown in **Figure 4** (page 4), in 2001 the diabetes age-adjusted death rate for males was higher than for females in three of the four race/ethnic groups. Black males (44.8) had a higher rate than Black females (42.6). White males (20.1) had a higher rate than White females (14.7), and Asian/Other males (18.6) had a higher rate than Asian/Other females (16.9). The reverse was true among Hispanics where females (33.0) had a higher rate than males (32.6). The only statistically significant difference was among Whites.

Diabetes Death Data for California Counties

Table 2 (page 10) displays the number of deaths, crude death rates, and age-adjusted death rates by county averaged over a three-year period, 1999 to 2001. This averaging is done to reduce the large fluctuations in the death rates that are inherent among counties with a small number of events and/or population.

The highest average number of diabetes deaths occurred in Los Angeles County (1,863.0) and the lowest in Alpine County (0.0).

The highest and lowest reliable diabetes crude death rates were in Tehama County (35.3 per 100,000 population) and Marin County (10.3), respectively.

The ranking for diabetes age-adjusted death rates showed Kings County with the highest reliable rate (48.4 deaths per 100,000 population) and Marin County with the lowest (9.8).

Diabetes Death Data by City Health Jurisdiction

Table 3 (page 6) displays the number of deaths and crude death rates for California's three city health jurisdictions averaged over a three-year period, 1999 to 2001. Age-adjusted death rates were not calculated for the city health jurisdictions because city population estimates by age were not available.

The city of Long Beach had an average of 81.7 diabetes deaths, Pasadena had 30.3, and Berkeley had 12.7.

Pasadena had a diabetes crude death rate of 22.6 deaths per 100,000 population, Long Beach had a crude rate of 17.7, and Berkeley had a crude rate of 12.3, though the rate for Berkeley was not reliable.

For more data, see DHS Center for Health Statistics, Home Page at www.dhs.ca.gov/org/hisp/chs/chsindex.htm

TABLE 3
DIABETES DEATHS
AMONG THE LOCAL HEALTH JURISDICTIONS
CALIFORNIA, 1999-2001
(By Place of Residence)

LOCAL HEALTH JURISDICTION	NUMBER OF DEATHS (Average)	2000 POPULATION	CRUDE DEATH RATE
BERKELEY	12.7	102,743	12.3 *
LONG BEACH	81.7	461,522	17.7
PASADENA	30.3	133,936	22.6

Note: Rates are per 100,000 population. Data is ICD-10 codes E10-E14.
* Death rate unreliable, relative standard error is greater than or equal to 23 percent.

Source: State of California, Department of Finance, Report E-4,
2000 Revised Historical Estimates of California Cities and Counties, March 2002.
State of California, Department of Health Services, Death records.

Methodological Approach

The methods used to analyze vital statistics data are important. Analyzing only the number of deaths has its disadvantages and can be misleading because the population at risk is not taken into consideration. Crude death rates show the actual rate of dying in a given population, but because of the differing age compositions of various populations, crude rates do not provide a statistically valid method for comparing geographic areas, sexes, race/ethnic groups, and/or multiple reporting periods. Age-specific death rates are the number of deaths per 100,000 population in a specific age group, and are used along with standard population proportions to develop a weighted average rate. This rate is referred to as an age-adjusted death rate and removes the effect of different age structures of the populations whose rates are being compared. Age-adjusted death rates therefore provide the preferred method for comparing different race/ethnic groups, sexes, and geographic areas and for measuring death rates over time. The year 2000 population standard is used as the basis for age-adjustments in this report.

Data Limitations and Qualifications

The diabetes death data presented in this report are based on vital statistics records with ICD-10 codes E10-E14 as defined by the NCHS.[3] Deaths by place of residence means that the data include only those deaths occurring among residents of California and its counties, regardless of the place of death.

The term “significant” within the text indicates statistically significant based on the difference between two independent rates ($p<.05$).

As with any vital statistics data, caution needs to be exercised when analyzing small numbers, including the rates derived from them. Death rates calculated from a small number of deaths and/or population tend to be unreliable and subject to significant

variation from one year to the next. To assist the reader, 95 percent confidence intervals are provided in the data tables as a tool for measuring the reliability of the death rates. Rates with a relative standard error (coefficient of variation) greater than or equal to 23 percent are indicated with an asterisk (*).

Beginning in 1999, cause of death is reported using ICD-10.[6] Cause of death for 1979 through 1998 was coded using the International Classification of Diseases, Ninth Revision (ICD-9). Depending on the specific cause of death, the number of deaths and death rate are not comparable between ICD-9 and ICD-10. Therefore, our analyses do not combine both ICD-9 and ICD-10 data.

The four race/ethnic groups presented in the tables are mutually exclusive. White, Black, and Asian/Other exclude Hispanic ethnicity, while Hispanic includes any race/ethnic group. In order to remain consistent with the population data obtained from the Department of Finance, the "White race/ethnic group" includes: White, Other (specified), Not Stated, and Unknown; and the "Asian/Other race/ethnic group" includes: Aleut, American Indian, Asian Indian, Asian (specified/unspecified), Cambodian, Chinese, Eskimo, Filipino, Guamanian, Hawaiian, Hmong, Japanese, Korean, Laotian, Other Pacific Islander, Samoan, Thai, and Vietnamese. In addition, caution should be exercised in the interpretation of mortality data by race/ethnicity. Misclassification of race/ethnicity on the death certificate may contribute to death rates that may be underestimated among Hispanics and Asian/Other.[7]

Beginning in 2000, federal race/ethnicity reporting guidelines changed to allow the reporting of up to three races on death certificates. The race/ethnic groups in this report were tabulated based on the first listed race on those certificates where more than one race was listed. Race groups for 2000 and 2001 are therefore not strictly compatible with prior years and trends and should be viewed with caution.

Effective with 1999 mortality data, the standard population for calculating age adjustments was changed from the 1940 population standard to the year 2000 population standard, in accordance with new statistical policy implemented by the NCHS. The new population standard affects measurement of mortality trends and group comparisons. Of particular note are the effects on race comparison of mortality.[8] Age-adjusted rates presented in this report are not comparable to rates calculated with different population standards.

In addition, the population data used to calculate the crude rates in **Table 3** (page 6) differ from the population data used to calculate the crude rates in **Table 2** (page 10). Consequently, caution should be exercised when comparing the crude rates among the three city health jurisdictions with the rates among the 58 California counties. Age-adjusted rates for local city health jurisdictions were not calculated.

---

[6] World Health Organization. International Statistical Classification of Diseases and Related Health Problems. Tenth Revision. Geneva: World Health Organization. 1992.

[7] Rosenberg HM, et al. Quality of Death Rates by Race and Hispanic Origin: A Summary of Current Research, 1999. Vital and Health Statistics, Series 2 No.128, National Center for Health Statistics, DHHS Pub. No. (PHS) 99-1328, September 1999.

[8] Anderson RN, Rosenberg HM. Age Standardization of Death Rates: Implementation of the Year 2000 Standard. National Vital Statistics reports; Vol. 47 No. 3, Hyattsville, Maryland: National Center for Health Statistics.

Some of the earlier reports on this subject are available online.

For a more complete explanation of the age-adjusting methodology used in this report, see the "Healthy People 2010 Statistical Notes" publication.[9] Detailed information on data quality and limitations are presented in the appendix of the annual report, "Vital Statistics of California".[10] Formulas used to calculate death rates are included in the technical notes of the "County Health Status Profiles" report.[11]

This Data Summary was prepared by Daniel H. Cox, Center for Health Statistics, 1616 Capitol Avenue, Room 74.165, MS5103, P.O. Box 997410, Sacramento, CA 95814, Telephone (916) 650-6895 and Fax (916) 650-6889.

---

[9] Klein RJ, Schoenborn CA. Healthy People 2010 Statistical Notes: Age Adjustment using the 2000 Projected U.S. Population. National Center for Health Statistics, DHHS Publication, No. 20, January 2001

[10] Riedmiller K, Ficenec S, Bindra K, Christensen J. Vital Statistics of California 1999. Center for Health Statistics, California Department of Health Services, April 2002.

[11] Schmidt C, Wilson C. County Health Status Profiles 2003. Center for Health Statistics, California Department of Health Services, April 2003.

TABLE 1
DIABETES DEATHS
BY RACE/ETHNICITY, AGE, AND SEX
CALIFORNIA, 2001
(By Place of Residence)

AGE GROUPS	DEATHS			POPULATION			RATES			95% CONFIDENCE LIMITS					
										TOTAL		MALE		FEMALE	
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER
TOTAL															
Under 1	0	0	0	560,999	286,873	274,126	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	2,243,262	1,147,543	1,095,719	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	5	5	0	5,672,643	2,906,408	2,766,235	0.1 *	0.2 *	0.0 +	0.0	0.2	0.0	0.3	-	-
15 to 24	12	5	7	4,753,513	2,467,107	2,286,406	0.3 *	0.2 *	0.3 *	0.1	0.4	0.0	0.4	0.1	0.5
25 to 34	49	24	25	4,918,489	2,594,607	2,323,882	1.0	0.9	1.1	0.7	1.3	0.6	1.3	0.7	1.5
35 to 44	193	124	69	5,765,426	2,956,340	2,809,086	3.3	4.2	2.5	2.9	3.8	3.5	4.9	1.9	3.0
45 to 54	540	324	216	4,674,074	2,325,619	2,348,455	11.6	13.9	9.2	10.6	12.5	12.4	15.4	8.0	10.4
55 to 64	934	521	413	2,862,622	1,396,328	1,466,294	32.6	37.3	28.2	30.5	34.7	34.1	40.5	25.4	30.9
65 to 74	1,610	789	821	1,976,584	916,584	1,060,000	81.5	86.1	77.5	77.5	85.4	80.1	92.1	72.2	82.8
75 to 84	2,048	931	1,117	1,337,545	547,455	790,090	153.1	170.1	141.4	146.5	159.7	159.1	181.0	133.1	149.7
85 & Older	1,066	365	701	468,178	149,547	318,631	227.7	244.1	220.0	214.0	241.4	219.0	269.1	203.7	236.3
Total	6,457	3,088	3,369	35,233,335	17,694,411	17,538,924	18.3	17.5	19.2	17.9	18.8	16.8	18.1	18.6	19.9
Age-Adjusted							20.9	23.1	19.2	20.4	21.4	22.3	23.9	18.5	19.8
ASIAN/OTHER															
Under 1	0	0	0	69,275	35,440	33,835	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	274,035	140,219	133,816	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	682,107	351,057	331,050	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	0	0	0	626,372	320,815	305,557	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
25 to 34	2	0	2	663,350	335,748	327,602	0.3 *	0.0 +	0.6 *	0.0	0.7	-	-	0.0	1.5
35 to 44	20	11	9	709,159	345,299	363,860	2.8	3.2 *	2.5 *	1.6	4.1	1.3	5.1	0.9	4.1
45 to 54	41	33	8	596,166	282,159	314,007	6.9	11.7	2.5 *	4.8	9.0	7.7	15.7	0.8	4.3
55 to 64	95	55	40	334,827	159,091	175,736	28.4	34.6	22.8	22.7	34.1	25.4	43.7	15.7	29.8
65 to 74	145	70	75	224,875	99,888	124,987	64.5	70.1	60.0	54.0	75.0	53.7	86.5	46.4	73.6
75 to 84	181	71	110	131,980	56,160	75,820	137.1	126.4	145.1	117.2	157.1	97.0	155.8	118.0	172.2
85 & Older	92	36	56	41,442	17,481	23,961	222.0	205.9	233.7	176.6	267.4	138.7	273.2	172.5	294.9
Total	576	276	300	4,353,588	2,143,357	2,210,231	13.2	12.9	13.6	12.1	14.3	11.4	14.4	12.0	15.1
Age-Adjusted							17.8	18.6	16.9	16.3	19.2	16.4	20.8	15.0	18.8
BLACK															
Under 1	0	0	0	37,075	18,968	18,107	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	148,109	75,817	72,292	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	1	1	0	413,833	209,845	203,988	0.2 *	0.5 *	0.0 +	0.0	0.7	0.0	1.4	-	-
15 to 24	4	1	3	364,172	192,652	171,520	1.1 *	0.5 *	1.7 *	0.0	2.2	0.0	1.5	0.0	3.7
25 to 34	8	5	3	344,312	182,447	161,865	2.3 *	2.7 *	1.9 *	0.7	3.9	0.3	5.1	0.0	4.0
35 to 44	33	19	14	385,985	188,545	197,440	8.5	10.1 *	7.1 *	5.6	11.5	5.5	14.6	3.4	10.8
45 to 54	90	43	47	302,852	142,935	159,917	29.7	30.1	29.4	23.6	35.9	21.1	39.1	21.0	37.8
55 to 64	113	65	48	172,047	79,765	92,282	65.7	81.5	52.0	53.6	77.8	61.7	101.3	37.3	66.7
65 to 74	188	83	105	107,106	47,268	59,838	175.5	175.6	175.5	150.4	200.6	137.8	213.4	141.9	209.0
75 to 84	183	67	116	61,885	23,844	38,041	295.7	281.0	304.9	252.9	338.6	213.7	348.3	249.4	360.4
85 & Older	86	26	60	18,436	5,511	12,925	466.5	471.8	464.2	367.9	565.1	290.4	653.1	346.8	581.7
Total	706	310	396	2,355,812	1,167,597	1,188,215	30.0	26.6	33.3	27.8	32.2	23.6	29.5	30.0	36.6
Age-Adjusted							43.7	44.8	42.6	40.4	47.0	39.5	50.2	38.4	46.8
HISPANIC															
Under 1	0	0	0	272,023	139,031	132,992	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	1,070,328	547,371	522,957	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	2	2	0	2,398,512	1,225,596	1,172,916	0.1 *	0.2 *	0.0 +	0.0	0.2	0.0	0.4	-	-
15 to 24	6	2	4	1,664,220	861,697	802,523	0.4 *	0.2 *	0.5 *	0.1	0.6	0.0	0.6	0.0	1.0
25 to 34	15	5	10	1,767,279	977,600	789,679	0.8 *	0.5 *	1.3 *	0.4	1.3	0.1	1.0	0.5	2.1
35 to 44	49	33	16	1,701,500	916,547	784,953	2.9	3.6	2.0 *	2.1	3.7	2.4	4.8	1.0	3.0
45 to 54	144	84	60	1,050,953	536,610	514,343	13.7	15.7	11.7	11.5	15.9	12.3	19.0	8.7	14.6
55 to 64	269	135	134	532,881	260,356	272,525	50.5	51.9	49.2	44.4	56.5	43.1	60.6	40.8	57.5
65 to 74	482	221	261	331,669	152,519	179,150	145.3	144.9	145.7	132.4	158.3	125.8	164.0	128.0	163.4
75 to 84	450	187	263	172,771	71,849	100,922	260.5	260.3	260.6	236.4	284.5	223.0	297.6	229.1	292.1
85 & Older	184	51	133	58,574	19,479	39,095	314.1	261.8	340.2	268.7	359.5	190.0	333.7	282.4	398.0
Total	1,601	720	881	11,020,710	5,708,655	5,312,055	14.5	12.6	16.6	13.8	15.2	11.7	13.5	15.5	17.7
Age-Adjusted							33.0	32.6	33.0	31.4	34.7	30.1	35.2	30.8	35.2
WHITE															
Under 1	0	0	0	182,626	93,434	89,192	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	750,790	384,136	366,654	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	2	2	0	2,178,191	1,119,910	1,058,281	0.1 *	0.2 *	0.0 +	0.0	0.2	0.0	0.4	-	-
15 to 24	2	2	0	2,098,749	1,091,943	1,006,806	0.1 *	0.2 *	0.0 +	0.0	0.2	0.0	0.4	-	-
25 to 34	24	14	10	2,143,548	1,098,812	1,044,736	1.1	1.3 *	1.0 *	0.7	1.6	0.6	1.9	0.4	1.6
35 to 44	91	61	30	2,968,782	1,505,949	1,462,833	3.1	4.1	2.1	2.4	3.7	3.0	5.1	1.3	2.8
45 to 54	265	164	101	2,724,103	1,363,915	1,360,188	9.7	12.0	7.4	8.6	10.9	10.2	13.9	6.0	8.9
55 to 64	457	266	191	1,822,867	897,116	925,751	25.1	29.7	20.6	22.8	27.4	26.1	33.2	17.7	23.6
65 to 74	795	415	380	1,312,934	616,909	696,025	60.6	67.3	54.6	56.3	64.8	60.8	73.7	49.1	60.1
75 to 84	1,234	606	628	970,909	395,602	575,307	127.1	153.2	109.2	120.0	134.2	141.0	165.4	100.6	117.7
85 & Older	704	252	452	349,726	107,076	242,650	201.3	235.3	186.3	186.4	216.2	206.3	264.4	169.1	203.4
Total	3,574	1,782	1,792	17,503,225	8,674,802	8,828,423	20.4	20.5	20.3	19.7	21.1	19.6	21.5	19.4	21.2
Age-Adjusted							17.0	20.1	14.7	16.4	17.6	19.1	21.0	14.0	15.3

Note : Rates are per 100,000 population. ICD-10 codes E10-E14.
White, Black, and Asian/Other exclude Hispanic ethnicity.
Hispanic includes any race category.
The race/ethnic groups in this table were tabulated using the first listed race when certificates included more than one race.

*** Death rate unreliable, relative standard error is greater than or equal to 23 percent.**
\+ Standard error indeterminate, death rate based on no (zero) deaths.
\- Confidence limit is not calculated for no (zero) deaths.

Source : State of California, Department of Finance; 2001 Population: Population Projections by Age, Race/Ethnicity and Sex, December 1998.
State of California, Department of Health Services, Death Records.

TABLE 2
DIABETES DEATHS
CALIFORNIA, 1999-2001
(By Place of Residence)

COUNTY	1999-2001 DEATHS (Average)	PERCENT	2000 POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS	
						LOWER	UPPER
CALIFORNIA	6,221.3	100.0	34,653,395	18.0	20.7	20.2	21.2
ALAMEDA	282.3	4.5	1,470,155	19.2	22.1	19.5	24.7
ALPINE	0.0	0.0	1,239	0.0 +	0.0 +	-	-
AMADOR	5.3	0.1	34,853	15.3 *	9.8 *	1.4	18.1
BUTTE	44.3	0.7	207,158	21.4	15.8	11.0	20.6
CALAVERAS	5.0	0.1	42,041	11.9 *	8.7 *	0.8	16.6
COLUSA	2.3	0.0 a	20,973	11.1 *	12.0 *	0.0	27.4
CONTRA COSTA	153.0	2.5	931,946	16.4	16.9	14.2	19.6
DEL NORTE	4.7	0.1	31,155	15.0 *	13.5 *	1.2	25.9
EL DORADO	26.3	0.4	163,197	16.1	15.9	9.8	22.0
FRESNO	187.7	3.0	811,179	23.1	28.3	24.2	32.3
GLENN	5.7	0.1	29,298	19.3 *	18.7 *	3.2	34.3
HUMBOLDT	37.0	0.6	128,419	28.8	28.9	19.6	38.3
IMPERIAL	29.7	0.5	154,549	19.2	24.8	15.9	33.8
INYO	3.7	0.1	18,437	19.9 *	13.6 *	0.0	27.7
KERN	129.7	2.1	677,372	19.1	23.0	19.0	26.9
KINGS	39.3	0.6	126,672	31.1	48.4	33.2	63.6
LAKE	19.0	0.3	60,072	31.6 *	20.1 *	10.8	29.4
LASSEN	3.7	0.1	35,959	10.2 *	11.8 *	0.0	23.8
LOS ANGELES	1,863.0	29.9	9,838,861	18.9	23.9	22.8	25.0
MADERA	32.0	0.5	126,394	25.3	27.2	17.7	36.6
MARIN	25.7	0.4	248,397	10.3	9.8	6.0	13.6
MARIPOSA	3.3	0.1	16,762	19.9 *	13.1 *	0.0	27.4
MENDOCINO	21.7	0.3	90,442	24.0	22.1	12.8	31.5
MERCED	52.3	0.8	215,256	24.3	32.4	23.6	41.2
MODOC	2.3	0.0 a	10,481	22.3 *	15.1 *	0.0	34.8
MONO	1.3	0.0 a	10,891	12.2 *	16.1 *	0.0	44.5
MONTEREY	63.0	1.0	401,886	15.7	19.6	14.8	24.5
NAPA	29.7	0.5	127,084	23.3	18.8	11.9	25.6
NEVADA	13.0	0.2	97,020	13.4 *	10.1 *	4.4	15.7
ORANGE	404.0	6.5	2,833,190	14.3	18.4	16.6	20.2
PLACER	35.7	0.6	243,646	14.6	15.1	10.1	20.0
PLUMAS	3.3	0.1	20,852	16.0 *	12.4 *	0.0	26.1
RIVERSIDE	259.7	4.2	1,570,885	16.5	16.6	14.5	18.6
SACRAMENTO	223.3	3.6	1,212,527	18.4	20.7	17.9	23.4
SAN BENITO	6.3	0.1	51,853	12.2 *	14.5 *	3.2	25.7
SAN BERNARDINO	378.7	6.1	1,727,452	21.9	30.5	27.4	33.6
SAN DIEGO	449.7	7.2	2,943,001	15.3	17.7	16.1	19.4
SAN FRANCISCO	136.7	2.2	792,049	17.3	14.4	12.0	16.8
SAN JOAQUIN	138.7	2.2	579,712	23.9	26.5	22.1	30.9
SAN LUIS OBISPO	41.0	0.7	254,818	16.1	14.3	9.8	18.7
SAN MATEO	103.3	1.7	747,061	13.8	13.5	10.9	16.2
SANTA BARBARA	64.0	1.0	412,071	15.5	16.0	12.1	19.9
SANTA CLARA	236.3	3.8	1,763,252	13.4	17.5	15.2	19.8
SANTA CRUZ	41.3	0.7	260,248	15.9	17.3	12.0	22.6
SHASTA	42.0	0.7	175,777	23.9	21.1	14.7	27.5
SIERRA	0.7	0.0 a	3,457	19.3 *	15.1 *	0.0	51.3
SISKIYOU	11.3	0.2	45,194	25.1 *	19.0 *	7.8	30.2
SOLANO	66.0	1.1	399,841	16.5	22.8	17.2	28.4
SONOMA	79.7	1.3	459,258	17.3	16.4	12.8	20.1
STANISLAUS	98.7	1.6	459,025	21.5	25.1	20.1	30.1
SUTTER	10.3	0.2	82,040	12.6 *	12.3 *	4.8	19.8
TEHAMA	20.0	0.3	56,666	35.3	26.7 *	14.8	38.6
TRINITY	4.0	0.1	13,490	29.7 *	23.6 *	0.0	47.3
TULARE	87.7	1.4	379,944	23.1	28.0	22.2	33.9
TUOLUMNE	8.0	0.1	56,125	14.3 *	11.0 *	3.3	18.7
VENTURA	139.7	2.2	753,820	18.5	22.3	18.6	26.0
YOLO	29.7	0.5	164,010	18.1	22.5	14.4	30.6
YUBA	15.7	0.3	63,983	24.5 *	29.7 *	15.0	44.5

Note : Rates are per 100,000 population. ICD-10 codes E10-E14.

* Death rate unreliable, relative standard error is greater than or equal to 23 percent.

\- Confidence limit is not calculated for no (zero) deaths.

\+ Standard error indeterminate, death rate based on no (zero) deaths.

a Represents a percentage of more than zero but less than 0.05.

Source : State of California, Department of Finance; 2000 Population: Population Projections by Age, Race/Ethnicity and Sex, December 1998.
State of California, Department of Health Services, Death Records.